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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HANSJURG HUNZIKER

Appeal 2008-5334
Application 10/822,247
Technology Center 2800

Decided:¹ February 6, 2009

Before BRADLEY R. GARRIS, ROMULO H. DELMENDO, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-15, 17-29, 35, and 36 (Appeal Brief filed July 25, 2007, hereinafter “Br.”; Final Office Action mailed August 18, 2005). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellant's invention relates to an assembly for supplying electric power to a printed circuit board, wherein the assembly is an electrical connector having a flexible side flange for easy insertion into a mounting surface while providing a small footprint (Specification, hereinafter "Spec.," 1, ¶¶0001 and 0008-0012; claim 1).

Claim 1 on appeal reads as follows:

1. An assembly for supplying electric power to a printed circuit board, comprising:

a main body having a plurality of terminal mounting portions disposed on an upper surface of the main body;

a plurality of terminals coupled to the plurality of terminal mounting portions, wherein each of the plurality of terminals includes a substantially flat surface for securing wire hardware and a shaft extending through a slot in the main body to a bottom surface of the main body;

a first side flange having a barbed-edge and coupled to a first side surface of the main body; and

a second side flange having a barbed-edge and coupled to a second side surface of the main body, wherein the first and second side flanges are operable to allow the main body to readily disengage from the printed circuit board while giving the assembly a footprint on the printed circuit board of substantially the size of the main body.

The Examiner relied upon the following as evidence of unpatentability:

Cummings	5,250,770	Oct. 5, 1993
Kusuda	6,224,430 B1	May 1, 2001
Hutchins	6,416,356 B1	Jul. 9, 2002

The Examiner rejected the claims under 35 U.S.C. § 103(a) as follows: (i) claims 1-15 and 17-29 as unpatentable over the combined

teachings of Kusuda and Cummings; and (ii) claims 35 and 36 as unpatentable over the combined teachings of Hutchins and Cummings (Examiner's Answer mailed October 22, 2007, hereinafter "Ans.," 3-17).

With respect to the rejection of claims 1-15 and 17-29, Appellant relies on the same or similar arguments for all the claims. Accordingly, we select claim 1 as representative and confine our discussion to this selected claim. Similarly, with respect to the rejection of claims 35 and 36, Appellant relies on the same arguments for both claims. Accordingly we select claim 35 as representative and confine our discussion to this selected claim. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner found that Kusuda discloses every limitation of claim 1 "except for the first and second side flanges" having barbed-edges (Ans. 3). To account for this difference, the Examiner relied on the teachings of Cummings, which was found to disclose side flanges with barbed edges that "allow [a] main body to readily disengage from a printed circuit board while giving the assembly a foot print that is substantially the same size of the main body . . ." (*id.*). Based on these teachings, the Examiner concluded that "it would have been obvious to a person of ordinary skill in the art . . . to form the assembly of Kusuda with first and second side flanges, as taught by Cummings, to fast [sic] and securely mount the assembly to a housing" (Ans. 4).

As to claim 35, the Examiner similarly determined that Hutchins describes every limitation of the invention "except for the first and second side flanges" but that the teachings of Cummings would have led a person having ordinary skill in the art to arrive at the claimed assembly in order "to fast [sic] and securely mount the assembly to a housing" (Ans. 9). The

Examiner specifically found that Hutchins teaches “a shaft part of the terminal [that] must extend to the bottom of the terminal block (64) to complete the connection between the wires (62, Fig. 4b) and the circuit board (68)” (Ans. 17).

Appellant, on the other hand, asserts that Kusuda teaches the use of screws “to mount its electrical connectors to the printed circuit board” and that, while Cummings teaches “latching hooks,” “there is absolutely nothing in Kusuda that would lead one to consider the teachings of Cummings” to arrive at an assembly encompassed by claim 1 (Br. 12-13). Specifically, Appellant urges that Cummings cannot be combined with Kusuda because Cummings’s “rotary vacuum-electric switches have little or no similarity to an electric assembly for supplying electric power to a printed circuit board” and “[n]owhere in the Cummings reference is there any discussion about the problems associated with mounting electrical connectors to printed circuit boards” (Br. 13-14). In addition, Appellant contends that “secondary considerations overcome the 103 obviousness rejection” because “[t]he present invention serves to fulfill a long-felt need by industry” (Br. 16).

As to claim 35, Appellant urges that “Hutchins does not teach or suggest a terminal shaft which extends through slots in the main body to a bottom surface of the main body” (Br. 23).

ISSUES

Thus, the issues arising from the contentions of Appellant and the findings and conclusions of the Examiner are:

Has Appellant shown error in the Examiner’s determination that a person having ordinary skill in the art would have been led to replace the

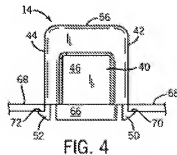
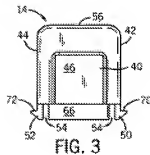
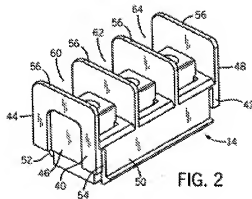
screw mount mechanisms of Kusuda with Cummings's barbed edge mount mechanisms, thus arriving at an assembly within the scope of appealed claim 1?

If not, has Appellant rebutted the Examiner's rejection with persuasive evidence of nonobviousness in the form of fulfillment of a long-felt need?

Has Appellant shown error in the Examiner's finding that Hutchins inherently describes a shaft as specified in claim 35?

FINDINGS OF FACT

1. Appellants' Figures 2-4 are reproduced below:
Figures 2-4



Figures 2-4 depict a perspective view and two side views of an electrical connector in accordance with the present invention, wherein the connector has a main body 40, a plurality of electrical terminal compartments (*i.e.*, terminals coupled to terminal mounting portions), and flanges 59 and 52 with barbed-edges (Spec. 5 and 7-9, ¶¶ 00013 and 00018-00021).

2. Appellant's Figure 9 is reproduced below:

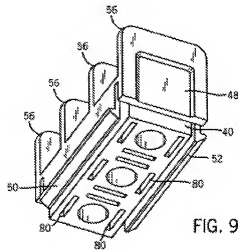
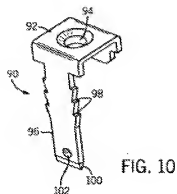


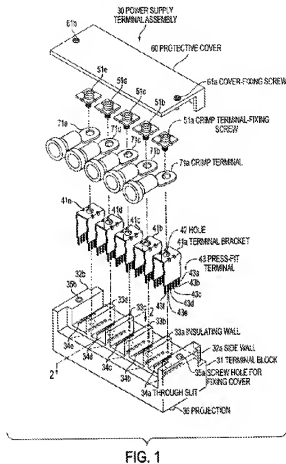
Figure 9 depicts a perspective view of the electrical connector from a lower orientation, wherein elements 80 are slots (Spec. 5 and 10, ¶¶00013, 00024, and 00025).

3. Appellant's Specification does not include a special definition for the term "shaft."
4. Appellant's Figure 10 is reproduced below:



Appellant's Figure 10 depicts a perspective view of an electrical terminal and shaft 96, which is designed to slide into one of the slots 80 (Spec. 5 and 10, ¶¶00013 and 00026).

5. Kusuda's Figure 1 is reproduced below:



Kusuda's Figure 1 shows an exploded view of a power supply terminal assembly (col. 3, l. 63 to col. 6, l. 64).

6. It is undisputed that Kusuda teaches every limitation of claim 1 except for the claimed first and second side flanges having barbed-edges (Br. 10-17).

7. Figure 8 of Cummings is reproduced below:

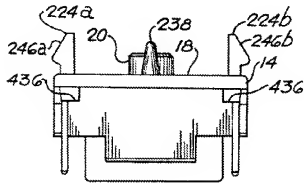


Figure 8 depicts a bottom plan of a case 14 for a rotary vacuum electric switch, wherein elements 224a and 224b are latching hooks adapted to be inserted into corresponding slots in a mounting or support panel component located behind the dashboard of an automobile vehicle (col. 8, l. 63 and col. 22, ll. 25-34).

8. Cummings teaches that “[t]he latching hooks 224a and 224b . . . can be pushed through the slots . . . with a strictly linear movement, so that the mounting of the switch . . . on the panel . . . 228 can easily be accomplished by a robotic machine” (col. 22, ll. 34-39).

9. Figure 5 of Hutchins is reproduced below:

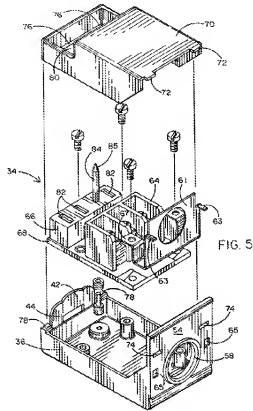


Figure 5 depicts an exploded view of an AC connector module (col. 2, ll. 4-5).

10. Hutchins teaches (col. 2, l. 63 to col. 3, l. 1):

The terminal block 64 and the contact block 66 of AC connector module 34 are mounted on a printed circuit card 68 which provides the interconnections between the terminal block 64 and the contact block 66 through contact pads (not shown) on the rear side of blocks 64 and 66.

11. The Appeal Brief states: “No evidence has been submitted . . . and relied upon by Appellant in the appeal” (Br. 33).

PRINCIPLES OF LAW

On appeal to this Board, Appellant must show that the Examiner reversibly erred in finally rejecting the claims. *Cf. In re Kahn*, 441 F.3d 977, 985-986 (Fed. Cir. 2006); *see also* 37 C.F.R. § 41.37(c)(1)(vii).

It is well settled that the United States Patent and Trademark Office (PTO) is obligated to give claim terms their broadest reasonable interpretation, taking into account any enlightenment by way of definitions or otherwise found in the specification. *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (“[T]he PTO must give claims their broadest reasonable construction consistent with the specification Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation”).

This longstanding principle is based on the notion that “during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.” *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989). That is, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. “Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.” *Id.* at 322.

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007).

KSR disapproved a rigid approach to obviousness (*i.e.*, an analysis *limited to* lack of teaching, suggestion, or motivation). *Id.* at 1741 (“The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.”). *See also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick*, 464 F.3d 1356, 1367 (Fed. Cir. 2006) (“Our suggestion test is in actuality quite flexible and not only permits, but *requires*, consideration of common knowledge and common sense.”); *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1291 (Fed. Cir. 2006) (“There is flexibility in our obviousness jurisprudence because a motivation may be found *implicitly* in the prior art. We do not have a rigid test that requires an actual teaching to combine. . . .”).

“[W]hen a patent claims a structure already known in the prior art that is altered by mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 127 S. Ct. at 1740. That is, “[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one.” *Id.* According to *KSR*, “[i]f a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.” *Id.* “For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.*

Two separate tests developed by our reviewing court for determining whether a prior art reference is analogous are: (1) whether the art is from the

same field of endeavor, regardless of the problem addressed; and (2) if the reference is not within the inventor's endeavor, whether the reference is reasonably pertinent to the particular problem with which the inventor is involved. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (analogous art based on same field of endeavor test); *ICON Health*, 496 F.3d at 1379-80 (analogous art based on similarities in problems addressed test). With respect to the second test, our reviewing court emphasized that "'familiar items may have obvious uses beyond their primary purposes.'" *ICON Health*, 496 F.3d at 1380 (quoting *KSR*, 127 S. Ct. at 1742).

It is well settled that mere lawyer's arguments and conclusory statements, which are unsupported by factual evidence, are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997).

ANALYSIS

CLAIM 1 (Obviousness over Kusuda and Cummings):

Appellant does not dispute the Examiner's factual findings that Kusuda teaches every limitation of claim 1 except for the claimed first and second side flanges having barbed-edges (Facts 1, 2, and 6). Rather, Appellant argues that the "rotary vacuum-electric switches [described in Cummings] have little or no similarity to an electrical assembly for supplying electric power to a printed circuit board" and "[n]owhere in the Cummings reference is there any discussion about the problems associated with mounting electrical connectors to printed circuit boards" (Br. 13-14). According to Appellant, "there is no teaching, suggestion, or motivation . . . to combine the Kusuda and Cummings references" (Br. 15).

For the reasons well stated by the Examiner (Ans. 9-13), we find no merit in Appellant's position. While Cummings teaches the use of latching hooks (*i.e.*, flanges with barbed edges) 224*a* and 224*b* to easily and securely mount a rotary vacuum-electric switch to an automobile dashboard (Facts 7 and 8), its teachings are nonetheless pertinent to a similar problem with which Appellants is concerned (mounting of one body to another). Thus, we are in complete agreement with the Examiner that Cummings can be combined with Kusuda. *ICON Health*, 496 F.3d at 1379-80. In this regard, *KSR* stated that "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 127 S. Ct. at 1740.

In this case, one of ordinary skill in the art would have found it obvious to replace Kusuda's screw mounting mechanism with the flanges having barbed edges as shown in Cummings with the reasonable expectation of providing an improved mounting mechanism for easier and secure mounting (Facts 5-8). "[W]hen a patent claims a structure already known in the prior art that is altered by mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *KSR*, 127 S. Ct. at 1740.

Appellant argues that the invention fulfills a long-felt need (Br. 16). But this argument fails because no objective evidence supports it (Fact 11). *Geisler*, 116 F.3d at 1470 (mere lawyer's arguments and conclusory statements entitled to little probative value).

CLAIM 35 (Obviousness over Hutchins and Cummings):

With respect to claim 35, Appellant further argues that “neither Hutchins nor Cummings teaches or suggests the use of shafts which extend through the main body to a bottom surface of the main body which electrically contact a board” (Br. 23). The Examiner responds that “a shaft part of the terminal [in Hutchins] must extend to the bottom of the terminal block (64) to complete the connection between the wires (62, Fig. 4b) and the circuit board (68)” (Ans. 17).

Appellant has not shown error in the Examiner’s reasonable position. As pointed out by the Examiner, Hutchins teaches that “a printed circuit card 68 . . . provides the interconnections between the terminal block 64 and the contact block 66 through contact pads (not shown) on the rear side of blocks 64 and 66” (Facts 9 and 10). Appellant does not rely on any special definition for the term “shaft” and, in fact, informs one skilled in the relevant art that non-limiting examples of “shaft” include simple elongated structures (Facts 3 and 4).

For these reasons, we uphold the Examiner’s rejections.

CONCLUSION

On this record, we determine that Appellant has failed to: (i) demonstrate any error in the Examiner’s determination that a person having ordinary skill in the art would have been led to replace the screw mount mechanisms of Kusuda with Cummings’s barbed edge mount mechanisms; (ii) provide persuasive evidence of nonobviousness in the form of fulfillment

of a long-felt need; and (iii) show error in the Examiner's finding that Hutchins inherently describes a shaft as specified in claim 35?

DECISION

The Examiner's decision to reject appealed claims 1-15, 17-29, 35, and 36 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ack

cc:

QUARLES & BRADY LLP
RENAISSANCE ONE
TWO NORTH CENTRAL AVENUE
PHOENIX AZ 85004-2391